

Energy Work Group Meeting

Midterm AFEO 2019

Country Report - Republic of Indonesia

Brunei Darussalam, 1 May 2019





Fuel Mix & Renewable Energy



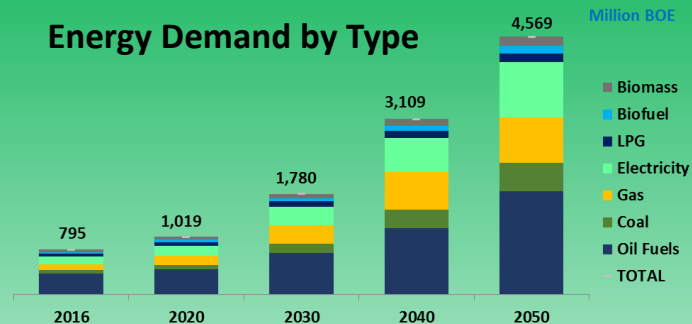
Energy Mix

Keterangan / Note	Satuan / Unit	Tahun / Year			
		2016	2020	2025	2050
PDB / GDP	Trillion Rupiah Constant 2010	9,435	11,651	15,873	69,394
- Growth (avg. 6.04%)	%/year	5.01	5.70	6.80	5.08
Populasi / Population	Million People	258.58	271.07	284.83	328.52
- Growth (avg. 0.71%)	%/year	1.23	1.16	0.98	0.41
Crude Price*	USD/barrel Current Price	45.5	65.3	62.0	67.1
Coal Price**	USD/tonne Current Price	70.0	64.9	57.2	43.0
LNG Price***	USD/MMBTU Current Price	7.3	9.1	9.1	8.7

Note: *) Brent Price, **) Australian Coal, ***) CIF on Japan, R: average growth

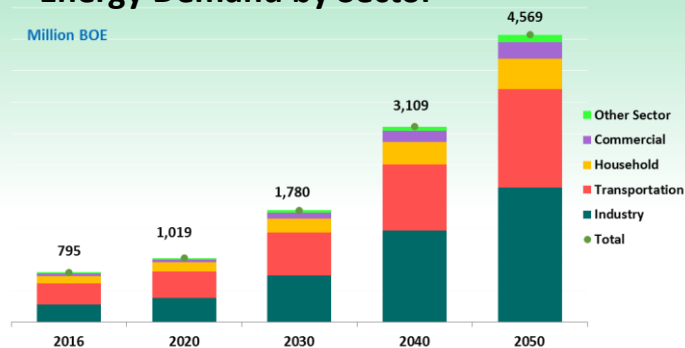
Source: Calculated based on the projections of World Bank "Commodities Markets Outlook, 2018"

Energy Demand by Type



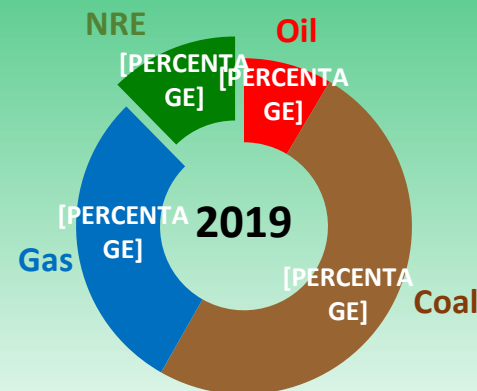
Catatan / Note: Biomassa non-komersial tidak diperhitungkan / Non-commercial biomass are not taken into account

Energy Demand by Sector



Existing Power Generation

	2015	2016	2017	2018	Mar-19
DIESEL PP	6.390	6.268	6.487	4.757	4.973
COAL FIRED PP	25.200	27.308	27.499	28.273	29.021
GAS PP	13.579	14.727	14.715	17.662	17.178
GEOHERMAL PP	1.348	1.443	2.197	1.924	1.924
SOLAR PV PP	9	20	21	25	42
HYDRO PP	4.289	4.831	4.860	4.938	4.947
BIOMASS & WIND PP	45	67	147	243	305
In MW	50.859	54.664	55.926	57.822	58.390



- PLN Power Generation up to March 2019 : 58.390 MW
- NRE Power Generation : 7.218 MW



Rural Electrification



REALISATION and ROAD MAP “DESA BERLISTRIK “ 2019

2018

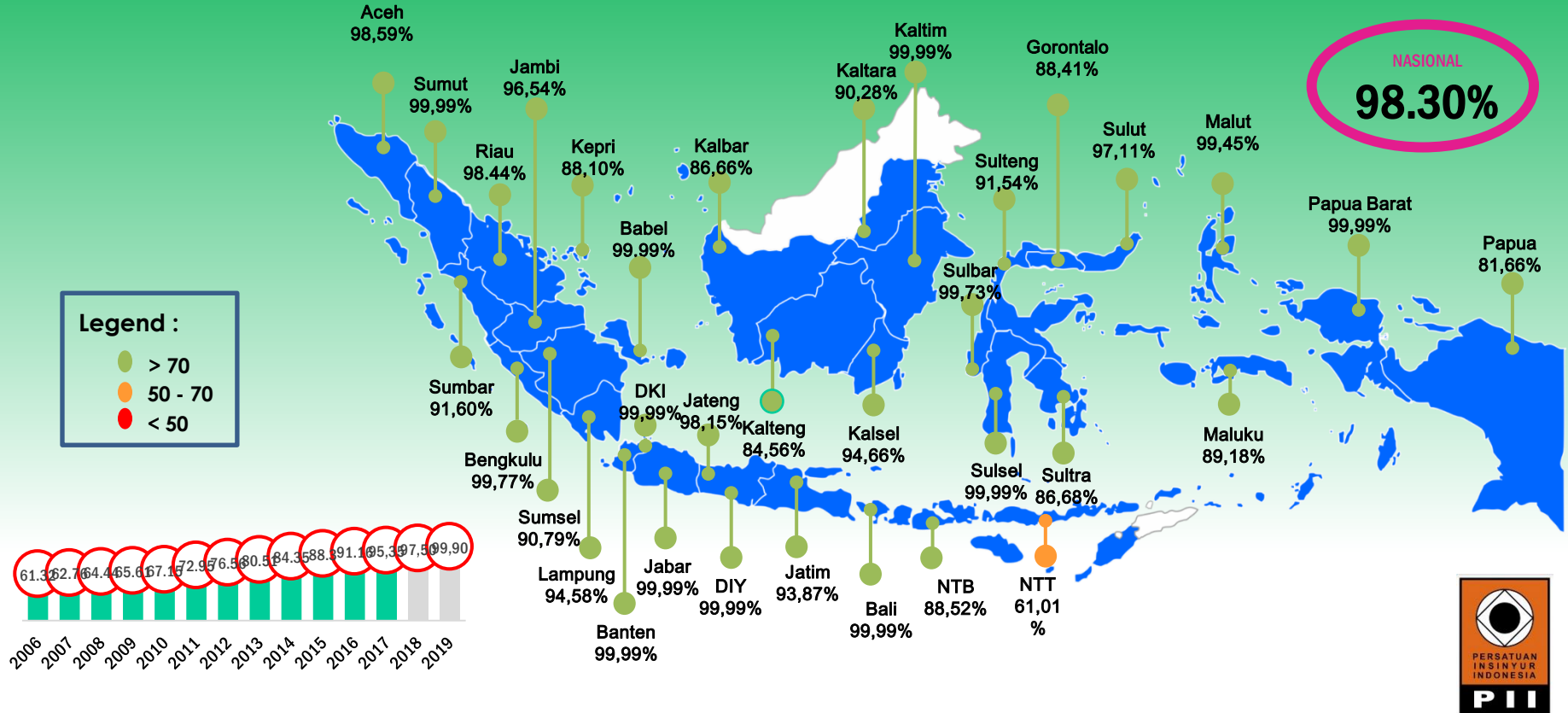
2019

Regional	Realisasi	
	Perluasan	Baru
Sumatera	173	388
Jawa Bali	1095	19
Kalimantan	50	223
Sulawesi	122	617
Nusa Tenggara	70	350
Maluku	8	56
Papua	0	188

Regional	Target		Realisasi	
	Perluasan	Baru	Perluasan	Baru
Sumatera	235	367	12	33
Jawa Bali	743	0	116	0
Kalimantan	129	125	9	24
Sulawesi	231	331	26	23
Nusa Tenggara	55	506	2	71
Maluku	3	82	0	0
Papua	0	248	0	212

Total	Target		Realisasi (sd Maret '19)	
	Perluasan	Baru	Perluasan	Baru
2018	1342	3664	1518	1841
2019	1396	1659	165	363

National Electrification Ratio





Renewable Energy Policy



NATIONAL ENERGY POLICY

Maximize renewable energy utilization; Reduce fuel-oil consumption and refined oil import



- ❑ Indonesia commits to reduce (its GHG emission) by 29% from BAU level by 2030 and 41% with international assistance
 - 314 million tons CO₂ (CM 1) and 398 million tons CO₂ (CM 2)
- ❑ Indonesia ratified Paris Agreement on October 2016, and submitted to UNFCCC on 6 November 2016
- ❑ The President of the Republic of Indonesia declared 3 specific steps to reduce emission in energy sector:
 - Transfer fossil fuel subsidies to the productive sectors;
 - Increase RE sources to 23% of the national energy consumption by 2025;
 - Waste processing become an energy source

BASED ON:

- Government Regulation No. 79/2014 on National Energy Policy
- Presidential Regulation No. 22/2017 on General Plans Of National Energy

Improvement of RE (Electricity) Capacity:

- Commercial
- Non Commercial

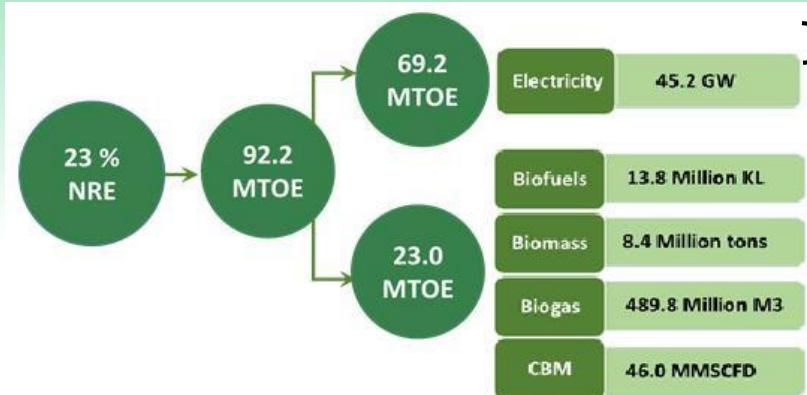
Biofuel Mandatory:

- PSO
- Non PSO

RE (Electricity) Price:

- 85% x CREP (PV, Wind, Biomass, Biogas, Marine)
- 100% x CREP (Hydro, Geothermal, Municipal Waste)

CREP : Cost of Regional Electricity Production



Indirect Utilization

1. Geothermal PP, 7,2 GW
2. Hydro PP, 17,9 GW
3. Small Hydro PP, 3 GW
4. Bioenergy PP, 5,5 GW
5. Solar PP, 6,5 GW
6. Wind PP, 1,8 GW
7. Others, 3,1 GW

Direct Utilization



INCENTIVES TO SUPPORT NEW AND RENEWABLE ENERGY

TAX ALLOWANCE

30 Gov't Regulation No.9/2016
% of investment value

Reduction of corporate net income tax for 6 years, 5% each year.

145 business segments
Eligible for tax allowance, expanded from 129 segments in the previous regulation.

Under **certain requirements**

among others: investment value or export orientation, manpower absorption, local content.

IMPORT DUTY FACILITY

MoF Regulation
No.176/PMK.011/2009 jo. MoF
Regulation No.
76/PMK.011/2012 jo. MoF
Regulation 188/PMK.010/2015

Import duty on Machineries and Equipments, goods, and raw materials for production

- Exemption of import duty on machineries and equipments
- **2 years** exemption of import duty on raw materials
- Additional 2 years import duty exemption for raw materials if company using locally-produced machineries and equipments (min 30%)

MoF Regulation No.
66/PMK.010/2015

Import duty on Capital Goods for Development and Expansion of Power Generation Industries for Public Purpose.

TAX HOLIDAY

MoF Regulation No.35/PMK.010/2018

5-20 years
Tax relief facility, starting from the commencement of commercial production. Can be extended for Max. 20 years under certain consideration.

100% (Single Rate) Tax Relief for:

Investment Plan minimal IDR 500 million - IDR 1 trillion : 5 Years
Investment Plan min IDR 1 trillion - IDR 5 trillion : 7 years
Investment Plan min IDR 5 trillion - IDR 15 trillion : 10 years
Investment Plan min IDR 15 trillion - IDR 30 trillion: 15 years
Investment Plan minimal IDR 30 trillion : 20 years
Transition Time 50% Corporate Income Tax Relief for 2 Years

Pioneer Industry:

1. Upstream metal;
2. Oil refinery;
3. Basic organic-chemical from oil and gas;
4. Machinery industry that manufacture industrial machine;
5. Processing industry based on commodity from agriculture, forestry and fishery;
6. Telecommunication, information and communication;
7. Medical component;
8. Sea transport;
9. The main aircraft and train component industry;

10. Industrial power generation machinery

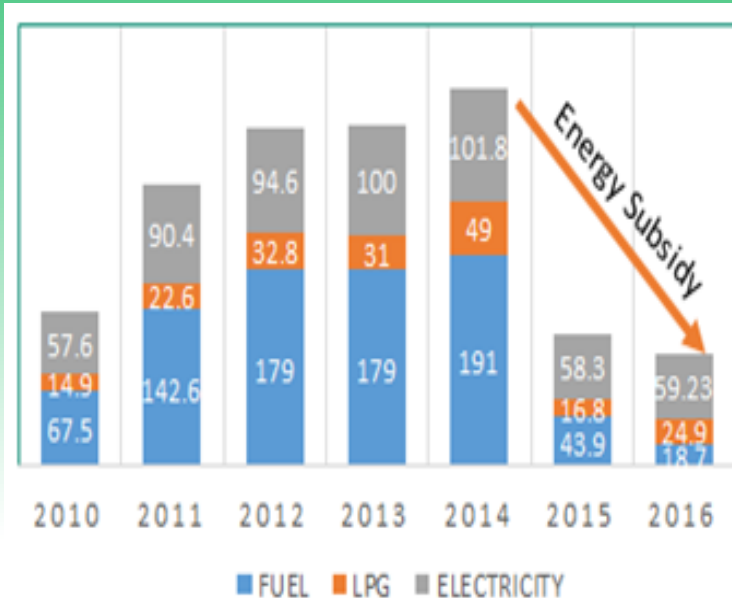


Energy Tariff

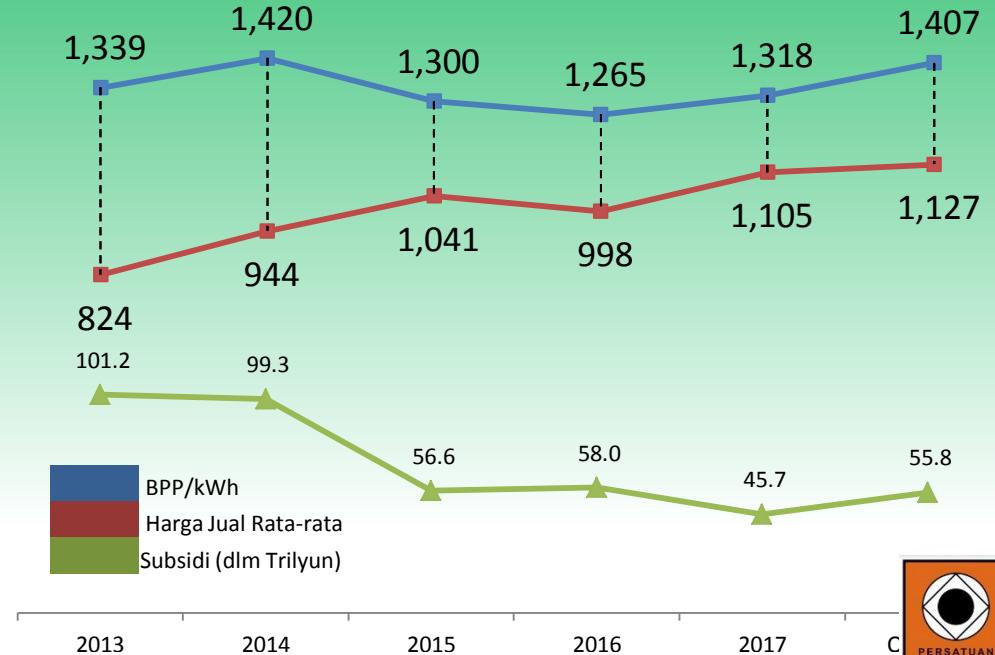


Energy and Electricity Subsidy

Energy Subsidy



Tariff, Cost of Production, and Subsidy - Electricity





RE Opportunities



RE OPPORTUNITIES - 2019

RE EXISTING AND PLANNED CAPACITY

TYPE OF POWER PLANT	CURRENT INSTALLATION (MW)	2019 PLAN (MW)
GEOTHERMAL	1914.5	267
LARGE HYDRO	4083.66	953.8
MINI&MICRO HYDRO	426.823	52.34
PV	23,015	49
WIND	70	100
HYBRID		8
BIOMASS	150.2	53.9
BIOGASS	26.3	3
WASTE	17.6	25
TOTAL	6.715,098	1.512.04

**Thank You
and
see you at CAFEO 2019 in Jakarta**



**PII - Persatuan Insinyur Indonesia
The Institution of Engineers Indonesia**

BACKUP SLIDE

Opportunities for RE Development



1

The current percentage of RE generation plants is far below from the target set at 23% in 2025

2

The electrification ratio in eastern part of Indonesia can be increased.

3

Possibilities for hybrid generator development, such as a hybrid PV Diesel-battery storage, PV-wind-Battery storage system, to reduce Fossil fuel consumption.

4

The technology of PV Panel and battery storage is becoming more efficient and competitive in the future.

5

The application and development of smart grids and control systems is possible to be developed in order to increase the penetration level of RE generation plants.

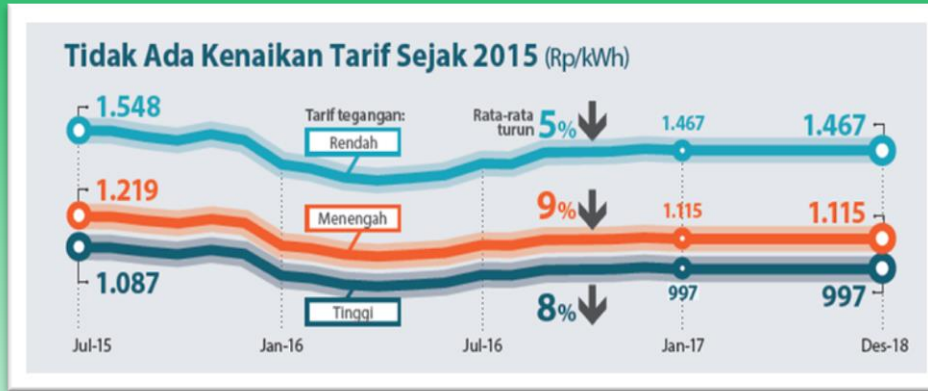
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Implementation of Co-firing technology by using biofuels

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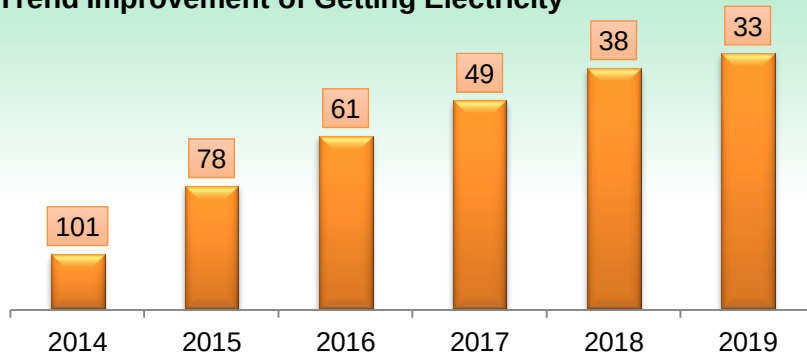
Waste Energy project in 12 cities will encourage the other cities to develop waste power plant

No increase in Tariff since 2015



Sampai dengan Triwulan 4 tahun 2018, tarif Non-Subsidi tidak naik meskipun ada kenaikan di variabel Tarif Adjustment (kurs, ICP & inflasi).

Trend Improvement of Getting Electricity



Walaupun dengan tarif yang tidak mengalami kenaikan, hasil Survey Ease of Doing Business (EODB) oleh World Bank, peringkat “Getting Electricity” Indonesia meningkat terus sejak tahun 2014 (101) hingga sekarang (33). Inilah salah satu bentuk dukungan BUMN dalam meningkatkan daya saing industri di Indonesia.